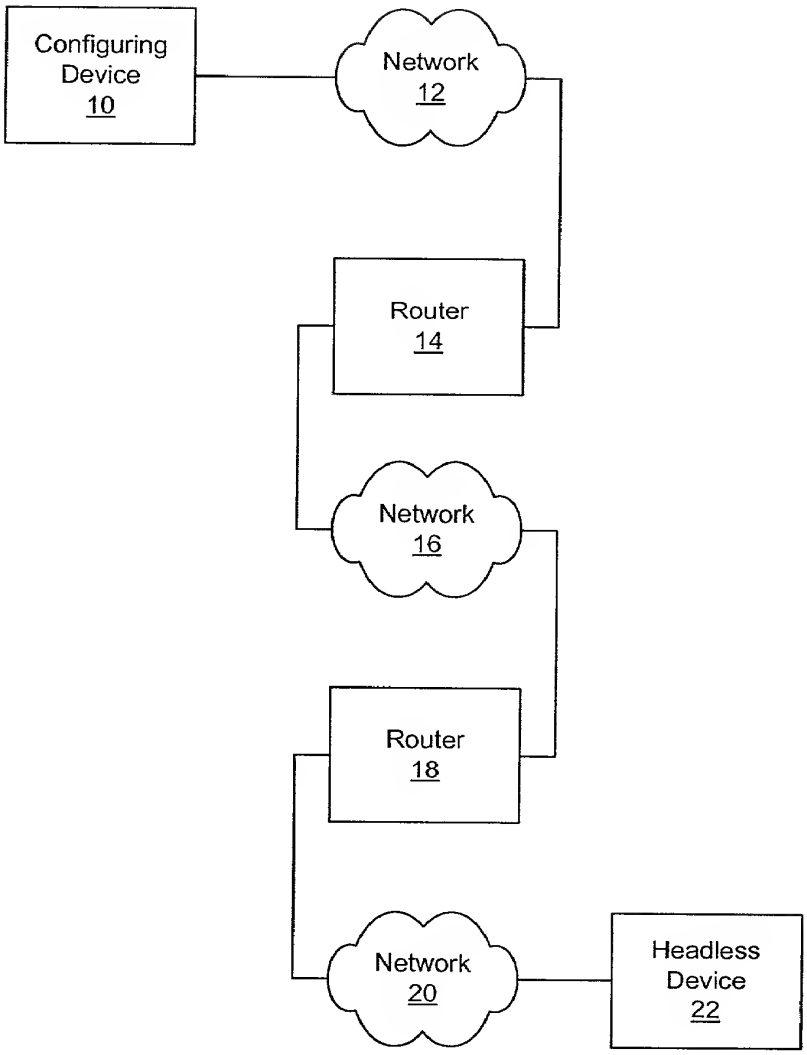
Configuring Device 10
Network 12
Router 14
Network 16
Router 18
Network 20
Headless Device 22

Figure 1

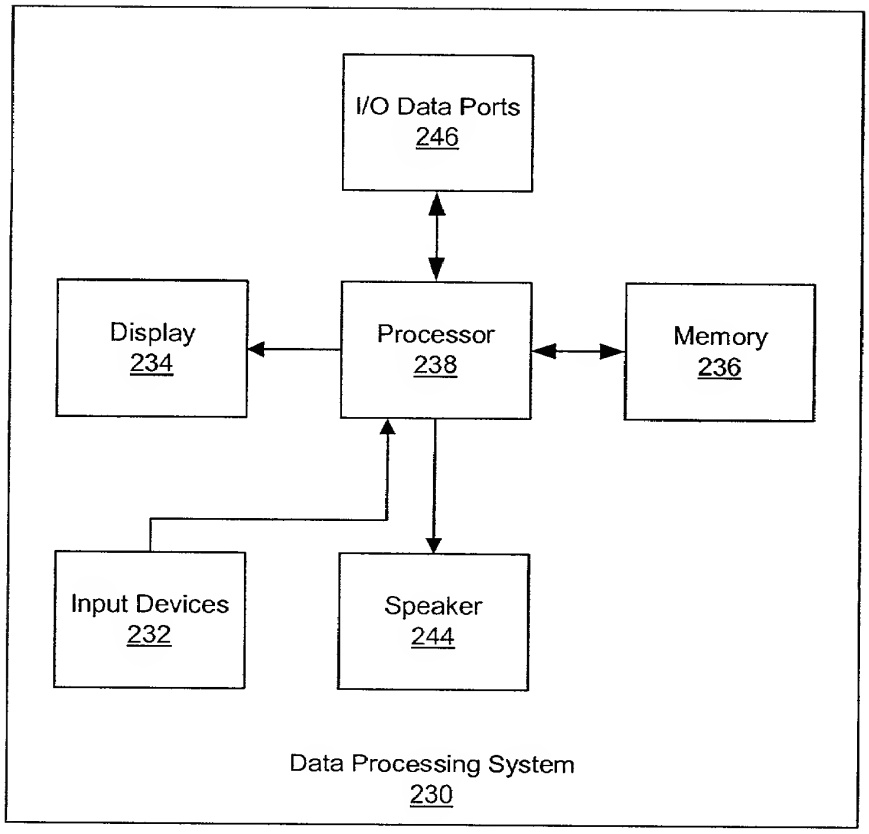

Figure 2A

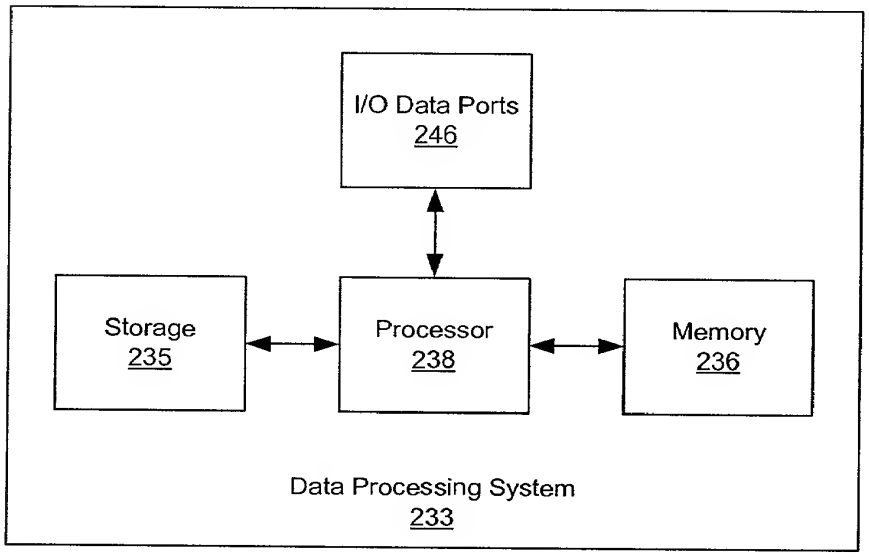

Figure 2B

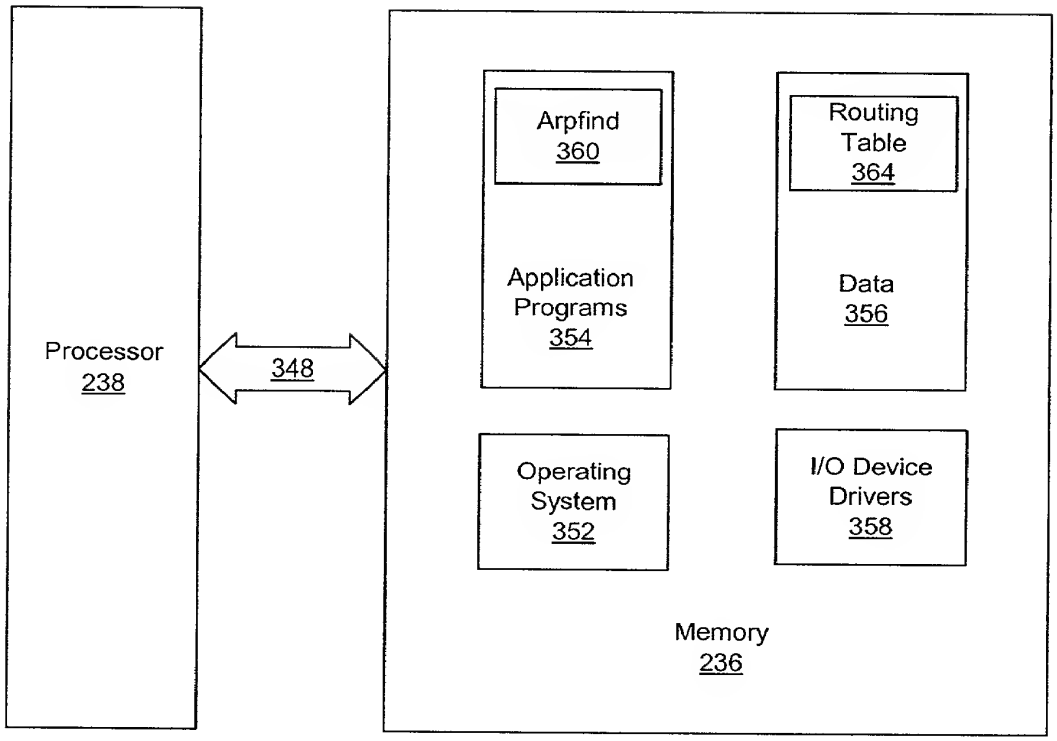
Processor
238
348
Arpfind
360
Application
Programs
354
Routing
Table
364
Data
356
Operating
System
352
I/O Device
Drivers
358
Memory
236

Figure 3

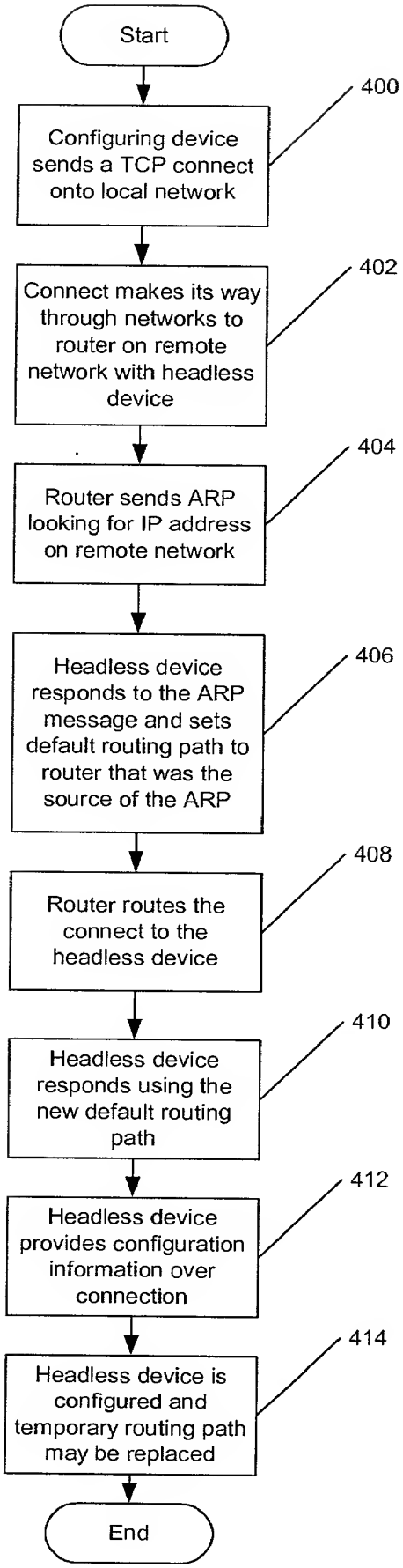
Start
400
Configuring device sends a TCP connect onto local network
402
Connect makes its way through networks to router on remote network with headless device
404
Router sends ARP looking for IP address on remote network
406
Headless device responds to the ARP message and sets default routing path to router that was the source of the ARP
408
Router routes the connect to the headless device
410
Headless device responds using the new default routing path
412
Headless device provides configuration information over connection
414
Headless device is configured and temporary routing path may be replaced
End

Figure 4

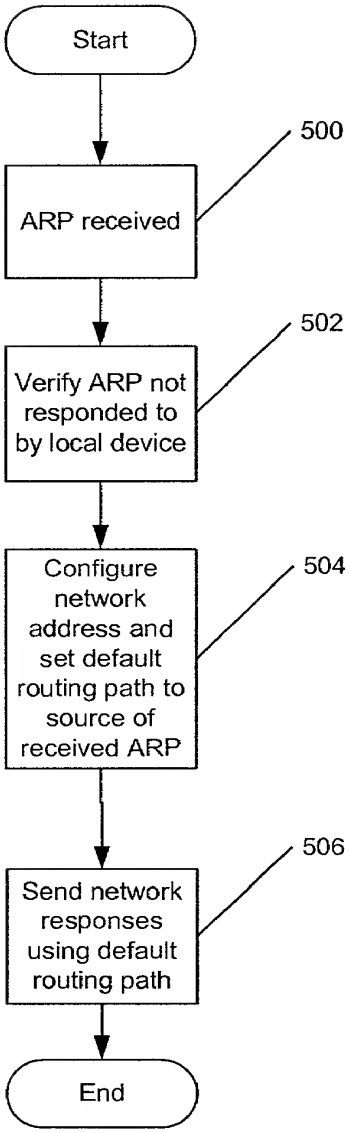
Start
500
ARP received
502
Verify ARP not responded to by local device
504
Configure network address and set default routing path to source of received ARP
506
Send network responses using default routing path
End

Figure 5

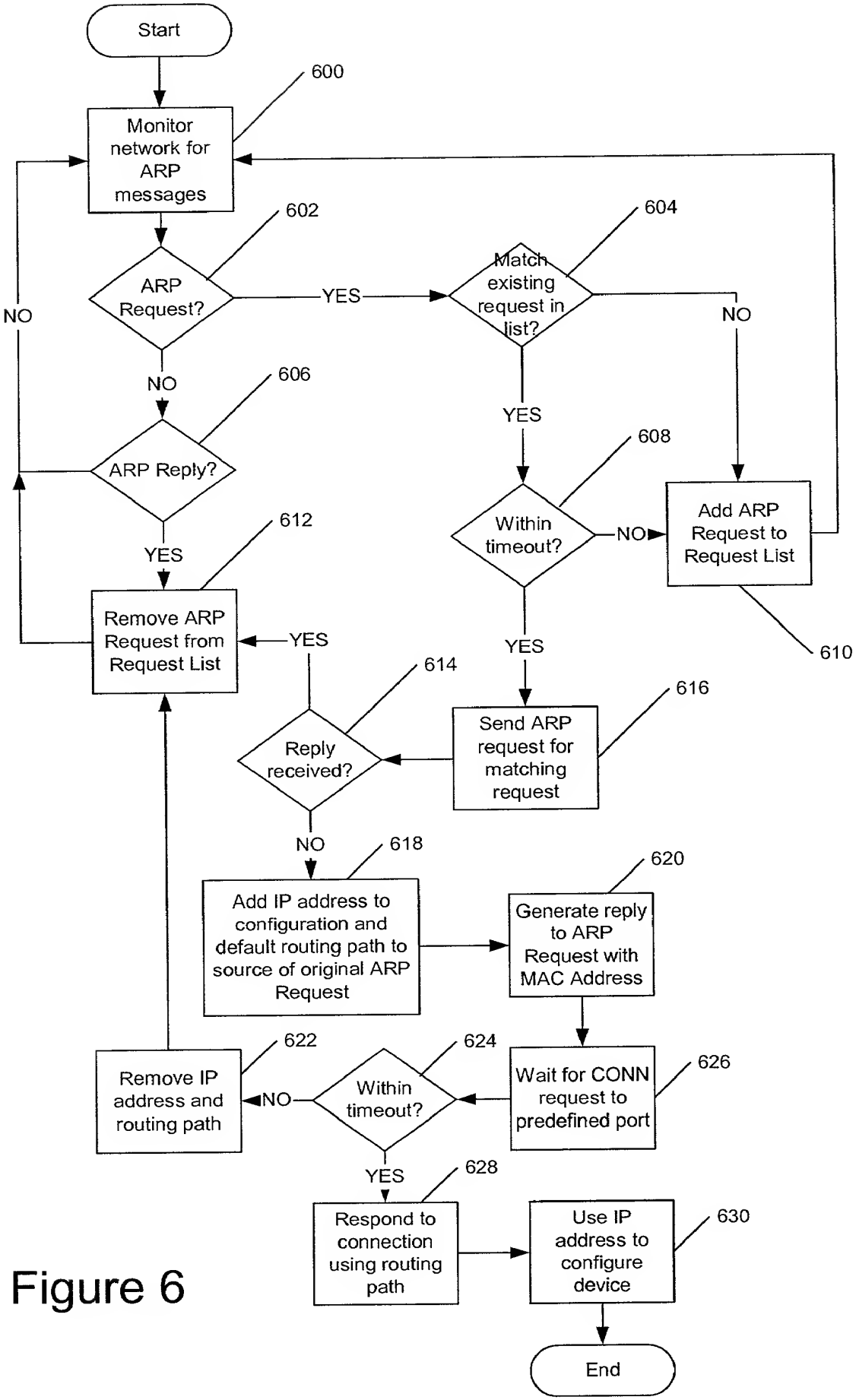
Start
600
Monitor network for ARP messages
602
ARP Request?
YES
604
Match existing request in list?
NO
NO
606
ARP Reply?
YES
608
Within timeout?
NO
Add ARP Request to Request List
610
YES
612
Remove ARP Request from Request List
YES
614
Reply received?
YES
616
Send ARP request for matching request
NO
618
Add IP address to configuration and default routing path to source of original ARP Request
620
Generate reply to ARP Request with MAC Address
622
Remove IP address and routing path
NO
624
Within timeout?
626
Wait for CONN request to predefined port
YES
628
Respond to connection using routing path
630
Use IP address to configure device
End

Figure 6

Ethernet headers	Hardware Type	Protocol Type	Operation	Sender Ethernet Address	Sender IP Address	Target Ethernet Address	Target IP Address

Figure 7